IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TYLER DIVISION

(1) REEDHYCALOG UK, LTD., and (2) REEDHYCALOG, LP, Plaintiffs, v. (1) DIAMOND INNOVATIONS, INC., Defendant.	Civil Action No. 6:08-cv-00325 (LED) JURY DEMANDED

PLAINTIFFS' OPENING CLAIM CONSTRUCTION BRIEF

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I. BACKGROUND

Plaintiffs, ReedHycalog UK, Ltd. and ReedHycalog, LP ("Plaintiffs"), allege that Defendant, Diamond Innovations, Inc. ("DI"), infringes eleven (11) patents presently asserted by Plaintiffs in this lawsuit ("Patents-in-Suit").[1] These eleven patents comprise what the Parties have generally referred to as three Thermal Characteristic Patents,[2] an Impact Strength Patent,[3] and seven so-called Depth Patents.[4] This Court has previously conducted two Markman hearings and issued two claim construction orders directed to the Patents-in-Suit: the Tyler 1 Markman Order[5] and the Tyler 2 Markman Order.[6] The Tyler 1 Markman Order addressed the three Thermal Characteristic Patents and the Impact Strength Patent. The Tyler 2 Markman Order addressed all eleven of the Patents-in-Suit.[7]

The parties filed their P.R. 4-3 Joint Claim Construction Statement (CPN-58) in the present matter on August 28, 2009.[8] On October 1, 2009, Plaintiffs and DI jointly moved the Court for leave to file an Amended Joint Claim Construction Statement (CPN-62), which reflects

[1] Plaintiffs' U.S. Patent Nos. 6,861,098 ("the `098 Patent"), 6,861,137 ("the `137 Patent"), 6,878,447 ("the `447 Patent"), 6,601,662 ("the `662 Patent"), 6,544,308 ("the `308 Patent"), 6,562,462 ("the `462 Patent"), 6,585,064 ("the `064 Patent"), 6,589,640 ("the `640 Patent"), 6,739,214 ("the `214 Patent"), 6,749,033 ("the `033 Patent"), and 6,797,326 ("the `326 Patent"), attached hereto as Exhibits 1-11, respectively. Plaintiffs had originally asserted claims 1, 2, and 6 of U.S. Patent No. 6,592,985 ("the `985 Patent") against DI in this case, but, in an effort to streamline the claim construction issues to be presented to the Court, Plaintiffs voluntarily agreed to withdraw all of the asserted claims of the `985 Patent. A copy of the `985 Patent is attached hereto as Exhibit 12.

[2] Patent Nos. 6,861,098, 6,861,137, and 6,878,447 are generally referred to herein as the "Thermal Characteristic Patents" because of the use of the term "thermal characteristic" in the claims of those patents.

[3] Patent No. 6,601,662 is generally referred to herein as the "Impact Strength Patent" because it is directed to the impact strength of the leached PCD cutters made in accordance with the invention.

[4] Patent Nos. 6,544,308, 6,562,462, 6,585,064, 6,589,640, 6,592,985, 6,739,214, 6,749,033 and 6,797,326 are generally referred to herein as the "Depth Patents" because of the references to leach depths in the claims of those patents.

[5] *See* the Markman Order issued by this Court on September 11, 2007 (CPN-237) in the predecessor case styled *ReedHycalog, Ltd., et al. v. Baker Hughes Oilfield Operations Inc, et al., Civil Action No. 6:06 CV 222.* A copy of the Tyler 1 Markman Order is attached hereto as Exhibit 13.

[6] *See* the Markman Order issued by this Court on April 15, 2009 (CPN-208) in the predecessor case styled *ReedHycalog, Ltd., et al. v. United Diamond Drilling Service, Inc, et al., Civil Action No. 6:07 CV 251.* A copy of the Tyler 2 Markman Order is attached hereto as Exhibit 14.

[7] In addition to the eleven presently asserted Patents-in-Suit, the Tyler 2 Markman Order addressed various terms of the `985 Patent claims. *See* n.1, *supra*.

[8] Attached as Exhibit 15.

the parties' additional agreement regarding the previously disputed "to a depth" claim term. As noted in the Amended Joint Claim Construction Statement attached to the parties' motion for leave, Plaintiffs and DI have reached agreement on the construction of seven of the terms of the asserted claims of the Patents-in-Suit,[9] but have been unable to reach agreement on the construction of six other claim terms. The terms that remain in dispute are:

- "working surface";
- "impact strength";
- "a thermal characteristic such that a 950 degrees C. temperature at the working surface results in a temperature of less than 750 degrees C. at the depth" (hereinafter the "Thermal Characteristic Limitation");
- "substantially the same impact strength" / "substantially uniform impact strength" (hereinafter the "Impact Strength Limitation"); and
- "the catalyzing material remaining in the second volume of the body increases with distance from the working surface."[10]

As noted above, four of the eleven Patents-in-Suit were previously addressed by this Court in its Tyler 1 Markman Order.[11] By that Order, the Court construed the terms "working surface" and "impact strength," and ruled that the Thermal Characteristic Limitation and the Impact Strength Limitation require no construction.[12] The Court further held that the Thermal Characteristic Limitation and the Impact Strength Limitation are not indefinite as a matter of law.[13] By its Tyler 2 Markman Order, in which the Court addressed all 11 of the Patents-in-Suit

[9] The parties have agreed on the constructions of the following claim terms: "at least about 0.1 mm," "at least 0.1 mm," "substantially free," "bonded diamonds," "catalyzing material," "integrally formed with a metallic substrate," and "to a depth." *See* Amended Joint Claim Construction Statement (attached as Ex. 1 to CPN-62) at 2-3.

[10] As discussed in greater detail below, Plaintiffs have agreed to withdraw all of the previously asserted claims that include this claim term in an effort to narrow the claim construction issues before the Court. DI, however, has demanded that this term still be addressed during the claim construction proceedings.

[11] All 11 of the Patents-in-Suit have similar specifications. Plaintiffs believe that identical claim terms from each of the 11 Patents-in-Suit should be given the same construction.

[12] *See* Tyler 1 Markman Order.

[13] *Id.*

at issue here, the Court confirmed its rulings that the Thermal Characteristic Limitation and the Impact Strength Limitation require no construction and are not indefinite as a matter of law.[14]

DI disagrees with the Court's prior claim construction rulings. Plaintiffs, conversely, believe that the Court's prior claim construction and indefiniteness rulings in the Tyler 1 and Tyler 2 matters were correct and well-supported. Accordingly, Plaintiffs' respectfully submit that the Court should adopt its earlier rulings with regard to the "working surface" and "impact strength" terms and the Thermal Characteristic and Impact Strength Limitations. As discussed below, disputed term "the catalyzing material remaining in the second volume of the body increases with distance from the working surface" requires no construction because it would be readily and easily understood by a jury as written.

II. TECHNOLOGY AT ISSUE

A. The Patents-in-Suit

In general, there are two types of drill bits used in drilling oil and gas wells: roller cone bits and fixed cutter bits. Roller cone bits generally have three rotating cones on a bit body. The teeth on the cones engage and crush the formation as drilling progresses. In fixed cutter bits, the subject matter of the present litigation, the cutters are – as the name implies – fixed on the blades of the bit body. The cutters on fixed cutter bits are typically made of synthetic polycrystalline diamond (PCD). This case is about fixed cutter drill bits that use partially leached PCD cutters.

The cutting elements described in the Patents-in-Suit are referred to as PCD elements.[15] PCD elements are most often formed from a mix of a powder of diamond or diamond-like crystals and catalyzing material that is sintered under high temperature and high pressure into a

[14] *See* Tyler 2 Markman Order.

[15] *See* '447 Patent col. 1:18-24.

polycrystalline matrix of inter-bonded super-hard carbon-based crystals.[16] The catalyzing material is required for the formation of the diamond-to-diamond bonds in the polycrystalline matrix during a high temperature, high pressure process.[17] The catalyzing material remains in the voids, or interstitial spaces, between the bonded diamond crystals and on the surfaces of the diamonds themselves.[18]

A typical PCD cutter includes a PCD element that is attached to a less hard metallic material such as tungsten carbide.[19] A PCD element may be in the form of a circular tablet.[20] Such a tablet would be bonded to a circular piece of tungsten carbide to form a PCD cutting element.[21] Other variations of a PCD cutting element are possible depending on the application.[22]

Because PCD cutting elements directly engage and cut rock down-hole during drilling operations, physical characteristics such as wear resistance, impact strength, and thermal properties are very important to the cutter's effectiveness. Friction between the cutting element and the rock surface causes extremely high temperatures in the PCD cutting elements. For this reason, the presence of catalyzing material in the interstitial spaces of the diamond matrix and on the surfaces of the diamonds in the PCD element causes well-known performance problems. The first such problem, known as thermal degradation, occurs at high temperatures and results in differing rates of thermal expansion between the diamond matrix and the catalyzing material.[23] This differential thermal expansion may cause the diamond-to-diamond bonds to rupture, and

[16] *Id.* at col. 1:34-37; col. 2:5-7.

[17] *Id.* at col. 1:37-39; col. 2:14-19.

[18] *Id.* at col. 2:20-30; col. 2:41-43.

[19] *Id.* at col. 1:42-45.

[20] *Id.* at col. 1:45-47.

[21] *Id.*

[22] *Id.* at col. 1:45-49.

[23] *Id.* at col. 2:33-40.

cracks and chips may appear in the PCD material.[24] The second performance problem is commonly referred to as graphitization, which arises when the presence of catalyzing material causes the diamond crystals to graphitize at high temperatures.[25] As the crystals graphitize, they undergo a very large volume increase resulting in cracking and dis-bonding.[26] Both of these forms of thermal breakdown lead to rapid wear of a PCD element at elevated temperatures.

In general, the Patents-in-Suit involve partially leached PCD cutting elements (and fixed cutter drill bits on which such partially leached cutting elements are employed), from which the catalyzing material has been depleted or removed from a portion of the PCD element resulting in highly beneficial thermal characteristics, while maintaining the impact strength of the PCD element.[27] The diamond matrix of the patented PCD element has a working surface, where a portion of the diamond matrix in the body adjacent the working surface has been rendered substantially free of the catalyzing material.[28] The catalyst may be removed by performing, for example, a leaching process. Numerous methods for leaching the catalyzing material are known in the art.[29]

Unleached PCD elements or cutters have been employed on fixed cutter drill bits for many years. However, it was the inventors of the Patents-in-Suit who first discovered the benefit of rendering a layer of the diamond table near the working surface of a PCD element substantially free of the catalyzing material. One of the benefits of such a treated PCD element is that it exhibits significantly improved thermal stability and a significant improvement in wear

[24] *Id*. at col. 2:38-40.

[25] *Id*. at col. 2:41-47.

[26] *Id.* at col. 9:28-32.

[27] *Id.* at col. 4:47-50.

[28] *Id*. at col. 4:57-66.

[29] For example, the '137 Patent, '662 Patent, and `308 Patent specifically incorporate by reference the leaching techniques taught by two prior art patents. *See, e.g.,* '137 Patent at col. 3:17-21; '662 Patent at col. 3:9-13; and `308 Patent at col. 3:14-17.

characteristics as compared to a traditional unleached PCD element. For example, the Patents-in-Suit disclose a considerable increase in the wear resistance of PCD elements embodying the patented technology as compared to prior art PCD elements.[30] The Patents-in-Suit discuss field tests in which fixed cutter drill bits employing the patented technology achieved a 40% increase in wear resistance—a very significant improvement in wear resistance performance.[31]

As described in the Patents-in-Suit, the leaching of a surface portion of the patented PCD element prevents the element from suffering the two forms of thermal degradation, discussed above, that negatively impacted prior art PCD elements.[32] As a result, the patented PCD element experiences greatly improved wear performance over prior art PCD elements.[33]

Impact strength is another very important property as it relates to the performance of PCD elements, particularly in the harsh conditions experienced in drilling a well.[34] Historically, PCD elements that were completely leached of catalyzing material had less impact strength than a traditional unleached PCD element.[35] In addition to the improved thermal characteristics discussed above, the partially leached PCD element described and claimed in the Impact Strength Patent has substantially the same impact strength as a traditional unleached PCD element.[36] Thus, the patented PCD elements are better able to withstand the impact loads experienced in drilling oil and gas wells.

[30] *See* '447 Patent at col. 10:21-57 and Figure 10.

[31] *Id.* at col. 11:14-26.

[32] *Id.* at col. 9:12-32.

[33] *Id.* at col. 10:15-19.

[34] '662 Patent at col. 1:64-67.

[35] *Id.* at col. 2:23-25.

[36] *Id.* at col. 5:64-6:1.

B. The Asserted Claims

The following patent claims are presently asserted against DI[37]:

`137 Patent:	Claims 1, 4, 7, 8, 23
`447 Patent:	Claims 1, 6, 7, 8
`098 Patent:	Claims 1, 6, 7
`662 Patent	Claims 1, 2, 3, 4, 7, 8, 9, 10, 12, 13, 14, 15, 20, 21, 25, 26, 27, 30, 31, 32, 33, 37, 38, 40, 44, 45
`308 Patent	Claims 1, 2, 5, 6, 7
`462 Patent	Claims 1, 2, 3, 6, 7, 8, 9, 10, 17, 18, 19, 23, 24, 25
`064 Patent	Claims 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 22
`640 Patent	Claims 1, 2, 7, 8, 15, 16, 21, 22, 27, 28, 29, 30, 31, 33, 34, 35, 37, 38, 39
`214 Patent	Claims 1, 2
`033 Patent	Claims 4, 5
`326 Patent	Claims 1, 2

III. APPLICABLE LEGAL PRINCIPLES

Claim construction is a matter of law. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370 (1996). Claim terms are given their meaning to one of ordinary skill in the art, that is, someone who is "aware of all the pertinent prior art," yet "thinks along the line of conventional wisdom in the art and is not one who undertakes to innovate." *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 454 (Fed. Cir. 1985).

[37] Plaintiffs originally asserted claims 1, 2, and 6 of U.S. Patent No. 6,592,985 and claims 24 - 33 of U.S. Patent No. 6,585,064 (each containing, or depending from claims containing, the phrase "the catalyzing material remaining in the second volume of the body increases with distance from the working surface") against DI. However, in the course of preparing this brief, Plaintiffs voluntarily agreed to drop those claims from this lawsuit in an effort to streamline the claim construction issues before this Court. Notwithstanding Plaintiffs' withdrawal of these several claims, DI has continued to demand that the Court address the construction of the "catalyzing material remaining in the second volume of the body increases with distance from the working surface" claim term. The discussion of this term is set out in Section V.C., *infra*.

Further, claim terms are interpreted from the point of view of a person of ordinary skill in the art who "is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). To determine what this person of ordinary skill would understand, the Court may consider "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art." *Id.* at 1314 (*citing Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004). Although the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims. *Comark Comms., Inc. v. Harris Corp*, 156 F.3d 1182, 1187 (Fed. Cir. 1998); *see also Phillips*, 415 F.3d at 1323.

Indefiniteness is purely a question of law that depends solely on the issue of claim construction. *Exxon Research & Eng'g Co. v. United States*, 265 F.2d 1371, 1376 (Fed. Cir. 2001). To rule "on a claim of patent indefiniteness, a court must determine whether one skilled in the art would understand what is claimed when the claim is read in light of the specification." *Bancorp. Servs., L.L.C. v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1372 (Fed. Cir. 2004). To respect a patent's presumption of validity, a court should hold a claim indefinite only after reasonable efforts at construction have proven futile. *Exxon Research*, 265 F.2d at 1375. If the claim's meaning is discernable, "even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree," the claim is "sufficiently clear to avoid invalidity on indefiniteness grounds." *Exxon Research*, 265 F.3d at 1375. A party must show invalidity for indefiniteness by clear and convincing evidence, and close questions of

indefiniteness "are properly resolved in favor of the patentee." *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1348 (Fed Cir. 2005); *Exxon Research*, 265 F.3d at 1380.

It remains the law that "claims should be read in a way that avoids ensnaring the prior art if it is possible to do so." *Harris Corp. v. IXYS Corp.*, 114 F.3d 1149, 1153 (Fed. Cir. 1997). However, post-*Phillips*, this maxim is limited to cases where the court concludes that a claim is ambiguous after applying all of the available tools of claim construction. *Broadcom Corp. v. Qualcomm, Inc.*, 543 F.3d 683, 690 (Fed. Cir. 2008) (citing *Phillips*, 415 F.3d at 1327). In such cases, the court may look to whether it is reasonable that the Patent Office would not have issued an invalid patent, and the ambiguity in the claim language should be resolved in a manner that preserves the patent's validity. *Phillips* at 1327.

IV. CLAIM TERMS REQUIRING CONSTRUCTION

Included below are the claim terms that Plaintiffs believe require construction. Both Plaintiffs' and DI's proposed constructions are addressed.

A. "Working Surface"

Plaintiffs' Proposed Construction	DI's Proposed Construction
1) *For the '662 patent*: Any portion of the PCD body which, in operation, may contact the object to be worked; where "PCD" means polycrystalline diamond or diamond-like elements. 2) *For all of the other ReedHycalog Patents*: Any portion of the PCD body which, in operation, may contact the object to be worked.	A top layer (with or without a chamfer).

The term "working surface" is found in all of the asserted independent claims of all of the Patents-in-Suit except for the `308 Patent. Claim 1 of the `447 Patent is illustrative:

> 1. A polycrystalline diamond element comprising a body of bonded diamonds with a **working surface**, wherein a first volume of the body remote from the working surface contains a catalyzing material, a second volume of the body adjacent to the working surface is substantially free of the catalyzing material to a depth from the working surface, wherein said bonded diamonds exhibit a thermal characteristic such that a 950 degrees C. temperature at the working surface results in a temperature of less than 750 degrees C. at the depth (emphasis added).

i. Plaintiffs' Proposed Definition of "Working Surface"

In Tyler 1, this Court construed the term "working surface" as:

(1) For the `447 patent, the `098 patent, and the `137 patent:

> Any portion of the PCD body which, in operation, may contact the object to be worked.

(2) For the `662 patent:

> Any portion of the PCD body which, in operation, may contact the object to be worked; where 'PCD' means polycrystalline diamond or diamond-like elements.[38]

Plaintiffs' proposed construction for the term "working surface" tracks the Court's prior construction exactly, and is fully supported by the intrinsic record. By way of example, the `447 Patent provides the following express definition for this term:

> **The working surface 4 is any portion of the PCD body 8 which, in operation, may contact the object to be worked.** In this specification, when the working surface **4** is discussed, it is understood that it applies to any portion of the body **8** which may be exposed and/or used as a working surface. Furthermore, any portion of any of the working surface **4** is, in and of itself, a working surface (emphasis added).[39]

Additionally, as the Court recognized in Tyler 1,[40] the `662 Patent specification refers to PCD as encompassing both diamond and "diamond-like" material.[41] Thus, the addition of the phrase "where 'PCD' means polycrystalline diamond or diamond-like elements" to the construction of

[38] Tyler 1 Markman Order, App. A; *see also* pp. 12-13.

[39] '447 Patent at col. 7:25-32; *see also, e.g.,* '137 Patent at col. 8:43-49; '098 Patent at col. 7:28-34; '662 Patent at col. 3:63-4:6.

[40] Tyler 1 Markman Order at p. 13

[41] *See, e.g.,* `662 Patent at col. 1:21-23.

"working surface" for the `662 Patent is wholly supported by the intrinsic record. Because Plaintiffs' proposed construction is precisely aligned with the intrinsic record and this Court's prior construction, it should be adopted here.

ii. DI's Proposed Definition of "Working Surface"

Defendants' proposed construction for the term "working surface" is "a top layer (with or without a chamfer)." To the extent that Plaintiffs understand DI's construction, is appears to be directly at odds with the teachings of the Patents-in-Suit and an attempt to improperly limit the scope of the asserted claims. As discussed above, the patents very clearly define the "working surface" of a PCD cutting element as any portion of the PCD body which, in operation, may contact the surface (i.e., formation) to be worked. The patents further expressly state that such surface may be the facing table, edge, and/or side of the PCD body, depending on the particular drilling application.[42] The reason for this is because PCD cutting elements employed on fixed cutter drill bits typically engage the formation at an angle, to allow the edge of the PCD cutter to shear the rock as the drill bit rotates.

It is unclear to Plaintiffs what DI's use of the ambiguous phrase "top layer" in its proposed construction is intended to mean. Plaintiffs assume that it is intended to mean the facing table, i.e., the flat face of, a PDC cutting element. If so, DI's definition seeks to unnecessarily limit the scope of the term "working surface," as that term is employed in the Patents-in-Suit. More specifically, DI's proposed definition would limit a "working surface" solely to the facing table of a PCD cutter, while excluding the edge and/or side of the PCD body, as expressly taught by the patents. Because DI's construction is both ambiguous and contrary to the teachings of the Patents-in-Suit, it should properly be rejected by the Court.

[42] *See, e.g.*, '447 Patent at col. 5:2-6.

B. "Impact Strength"

Plaintiffs' Proposed Construction	DI's Position
Resistance to impact.	DI contends that the claimed parameter is indefinite. DI also contends that this phrase is not enabled.

Only the '662 Patent contains claims that include the term "impact strength." Claim 1 is illustrative:

> A PCD element comprising a body of bonded diamonds integrally formed with a metallic substrate, the body having a working surface and at least an 85% by volume diamond density, wherein a first volume of the body adjacent to the working surface contains a catalyzing material, a second volume of the body adjacent to the working surface is substantially free of the catalyzing material, and wherein the first volume and the second volume have substantially the same **impact strength** (emphasis added).

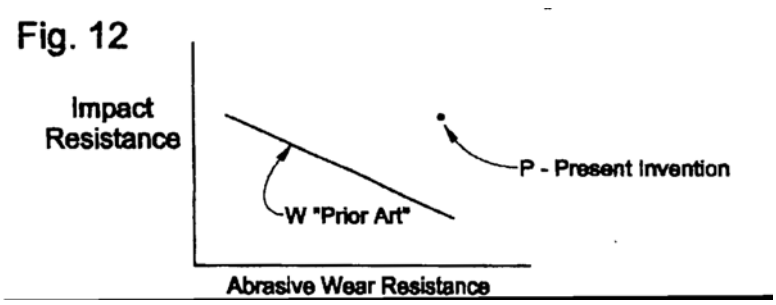
i. Plaintiffs' Proposed Definition of "Impact Strength"

This Court construed the term "impact strength" in the Tyler 1 case to mean "resistance to impact."[43] Plaintiffs ask that the Court adopt its prior construction for this term, which is fully supported by the intrinsic record.

The graph shown in Figure 12 of the '662 Patent, for example, depicts the advances of the present invention over a "typical impact resistance versus abrasive wear resistance curve well known and well established for prior art cutting elements" (curve W).[44]

[43] Tyler 1 Markman Order at p. 15.

[44] '662 Patent (Exhibit 4) at. col. 13:43-46. *See also* Exhibit 16 at pp. 46-47 (presenting a similar graph and discussing the greater "impact resistan[ce]" of polycrystalline diamond cutters).



The '662 Patent specification elaborates:

> Referring now to Fig. 12, to visually demonstrate the comparison of the invention's improvement in wear resistance while maintaining **impact strength**, a typical, impact resistance versus abrasive wear resistance curve well known and well established for prior art cutting elements is indicated by curve 'W'. The point P on the graph relatively indicates the properties of the cutting element of the present invention. As can be seen, P lies in the top right corner area of the graph, which represents to those skilled in the art a significant and substantial improvement in wear resistance of cutting elements while maintaining impact strength.[45]

Given that Figure 12 above, and the quoted patent disclosure relating to that figure, use the terms "impact resistance" and "impact strength" interchangeably, it is readily apparent that the term "impact strength," when used in the claims of the '662 Patent, relates to the measure of resistance to impact, as the Court previously held. Because the Court's prior construction is well-supported by the intrinsic record and will assist the jury in better understanding the meaning of the term "impact strength" as it is used in the claims, the Court should adopt such construction here.

ii. <u>DI's Position Regarding "Impact Strength"</u>

DI contends that the term "impact strength" is indefinite and not enabled. Plainly, the term is not indefinite as DI suggests, as the `662 Patent explicitly teaches that "impact strength" is a measure of a PCD element's resistance to impact. Furthermore, this Court has already construed this claim term as a matter of law, something that it could not have done if the term

[45] '662 Patent at. col. 13:41-51 (emphasis added).

was truly indefinite, as DI alleges. While Plaintiffs do not understand the basis for DI's indefiniteness contention, DI does make a vague reference to measurement methodologies in its exhibit to the parties' P.R. 4-3 Joint Claim Construction Statement.[46] Importantly, how impact strength is *measured* has no bearing on what that term *means*. In other words, even if one could measure a PCD element's resistance to impact using different methodologies, this does not change the fact that it is the element's resistance to impact (impact strength) that is being measured.

DI's vague reference to enablement has no bearing on the issue of claim construction, as enablement is an affirmative defense to be addressed with regard to *claims that have already been construed*. *See, e.g., Chiron Corp. v. Genentech, Inc.*, 363 F.3d 1247, 1254 (Fed. Cir. 2004) ("Because a patent specification must enable the full scope of a claimed invention, an enablement inquiry typically *begins* with a construction of the claims"); *see also Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 999 - 1000 (Fed. Cir. 2008).

V. CLAIM TERMS THAT DO NOT REQUIRE CONSTRUCTION

A. The Thermal Characteristic Limitation ("A Thermal Characteristic Such that a 950 Degrees C. Temperature at the Working Surface Results in a Temperature of Less Than 750 Degrees C. at the Depth")

Plaintiffs' Position	DI's Position
Other than the term "working surface" (see discussion above), *this phrase does not need to be construed*.	DI contends that the claimed parameter is indefinite. DI also contends that this phrase is not enabled.

The Thermal Characteristic Limitation is found in all of the asserted independent claims of all of the Thermal Characteristic Patents. Claim 1 of the `137 Patent is illustrative:

[46] *See* CPN-58-3 at p. 5.

> 1. A polycrystalline diamond element comprising a body of bonded diamonds with a working surface integrally formed with a metallic substrate, the body having at least an 85% by volume diamond density, wherein a first volume of the body remote from the working surface contains a catalyzing material and a second volume of the body adjacent to the working surface is substantially free of the catalyzing material to a depth from the working surface, wherein said bonded diamonds exhibit **a thermal characteristic such that a 950 degrees C. temperature at the working surface results in a temperature of less than 750 degrees C. at the depth** (emphasis added).

Significantly, this Court addressed this claim term in both its Tyler 1 Markman Order and its Tyler 2 Markman Order, by which the Court twice held that: (1) the phrase requires no construction;[47] and (2) the phrase is not indefinite as a matter of law.[48] DI has offered no proposed definition for this term, or any rationale for its belief that the Court's express rejection of the indefiniteness arguments advanced by the defendants in the Tyler 1 and Tyler 2 matters was somehow incorrect.

Regardless, the phrase at issue is actually quite definite: When the temperature at point A is 950° C, the temperature at point B is less than 750° C. There is nothing indefinite about this language whatsoever — it is entirely clear and unambiguous. The jury will not require any assistance in understanding this phrase. Neither the phrase itself, nor any of the words in the phrase, is a coined term, i.e., a term made up by the inventor especially for the patents. Nor is the phrase, or any of the words in the phrase, a term of art, with particularized meaning in the field of the invention. Rather, the phrase and the words in the phrase are all words of common usage, even among lay people.

In any event, The Thermal Characteristic Limitation will be readily comprehensible to the finder of fact and, therefore, requires no construction. *U.S. Surgical Corp.*, 103 F.3d at 1568. Again, DI's reference to enablement has no bearing on the issue of claim construction, as

[47] Tyler 1 Markman Order at p. 11; Tyler 2 Markman Order at 16.

[48] Tyler 1 Markman Order at 5-9; Tyler 2 Markman Order at 13-16.

enablement is an affirmative defense to be addressed with regard to *claims that have already been construed*. *See, e.g., Chiron Corp. v. Genentech, Inc.*, 363 F.3d 1247, 1254 (Fed. Cir. 2004) ("Because a patent specification must enable the full scope of a claimed invention, an enablement inquiry typically *begins* with a construction of the claims"); *see also Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 999 - 1000 (Fed. Cir. 2008).

B. The Impact Strength Limitation ("Substantially the Same Impact Strength" / "Substantially Uniform Impact Strength")

Plaintiffs' Position	DI's Position
Other than the term "impact strength" (see discussion above), *this phrase does not need to be construed*.	DI contends that the claimed parameter is indefinite. DI also contends that this phrase is not enabled.

The Impact Strength Limitation is included in all of the asserted independent claims of the Impact Strength Patent (`662 Patent).[49] Claim 1 of the `662 Patent is illustrative:

> 1. A PCD element comprising a body of bonded diamonds integrally formed with a metallic substrate, the body having a working surface and at least an 85% by volume diamond density, wherein a first volume of the body adjacent to the working surface contains a catalyzing material, a second volume of the body adjacent to the working surface is substantially free of the catalyzing material, and wherein the first volume and the second volume have **substantially the same impact strength** (emphasis added).

This Court also previously addressed the Impact Strength Limitation in its Tyler 1 and Tyler 2 Markman Orders, and specifically rejected the indefiniteness arguments advanced by the defendants in those cases. Specifically, the Court twice held that: (1) the phrase requires no construction,[50] and (2) the phrase is not indefinite as a matter of law.[51] Again, DI has offered no

[49] "Substantially the same impact strength" is found in asserted independent claims 1, 26, and 31. "Substantially uniform impact strength" is found in asserted independent claim 44.

[50] Tyler 1 Markman Order at p. 15; Tyler 2 Markman Order at p. 19.

[51] Tyler 1 Markman Order at pp. 5-9; Tyler 2 Markman Order at pp. 17-19.

proposed definition for this term, or any rationale for its belief that the Court's express rejection of the indefiniteness arguments advanced by the Tyler 1 and Tyler 2 defendants was incorrect.

The Impact Strength Limitation is unambiguous and will be readily comprehensible to jurors. It is not indefinite and requires no construction. Additionally, as noted above with respect to the prior term, DI's reference to the defense of enablement has no bearing here. *See, e.g., Chiron Corp.*, 363 F.3d at 1254; *see also Sitrick*, 516 F.3d at 999 – 1000.

C. "The Catalyzing Material Remaining in the Second Volume of the Body Increases with Distance from the Working Surface"

Plaintiffs' Position	DI's Position
Other than the term "working surface"[52] (see discussion above), *this phrase does not need to be construed*.	DI contends that the claimed parameter is indefinite. DI also contends that this phrase is not enabled.

The term "the catalyzing material remaining in the second volume of the body increases with distance from the working surface" is found in independent claims 1, 2, and 6 of the `985 Patent and in dependent claims 24 - 33 of the `064 Patent. Plaintiffs have voluntarily agreed to drop all of these initially asserted claims from this lawsuit for the sole purpose of streamlining the claim construction proceedings before this Court.[53] Notwithstanding Plaintiffs' efforts to narrow the issues, DI has continued to demand that this claim term be ruled upon by this Court.[54]

Claim 1 of the `985 Patent is illustrative of the use of the phrase "the catalyzing material remaining in the second volume of the body increases with distance from the working surface" in the formerly asserted claims:

[52] The parties have agreed upon the construction of the term "catalyzing material," as reflected in their Amended Joint Claim Construction Statement (attached as Ex. 1 to CPN-62).

[53] *See* September 24, 2009 letter from James Jorgensen to Jeffrey Killian, and Mr. Killian's September 28, 2009 response, both attached at Exhibit 17.

[54] *See* September 29, 2009 letter from Jeffrey Killian to James Jorgensen, and Mr. Jorgensen's September 29, 2009 response, both attached at Exhibit 18.

> 1. A polycrystalline diamond element comprising a body of bonded diamond crystals bonded to a substrate of less hard material, and a working surface on the body, wherein a first volume of the body remote from the working surface contains a catalyzing material, a second volume of the body adjacent to the working surface is substantially free of the catalyzing material, **the catalyzing material remaining within the second volume of the body increases with distance from the working surface** and adheres to surfaces of the diamond crystals, wherein the second volume extends to a depth of at least about 0.1 mm from the working surface (emphasis added).

Plaintiffs believe that this claim phrase will be readily understandable to the jury, in light of the parties' agreement on the meaning of the term "catalyzing material"[55] and the Court's construction of the term "working surface." With the exception of these two terms, this phrase contains only ordinary, and readily comprehensible, language. Certainly, the phrase is not insolubly ambiguous, as DI asserts.[56] Indeed, Plaintiffs cannot even surmise why DI contends that this claim term is indefinite. Because this claim term is readily understandable as written and is, therefore, definite, the Court should rule that the term does not require construction.

VI. CONCLUSION

The intrinsic record fully supports the definitions proposed by Plaintiffs. Where constructions have not been proposed by Plaintiffs for certain of the identified claim terms, such terms will be readily understood by the finder of fact. DI's proposed constructions, on the other hand, are not supported by the intrinsic record, but are apparently motivated by a desire to advance undisclosed non-infringement positions. Accordingly, Plaintiffs respectfully request that the Court adopt Plaintiffs' definitions, where proposed.

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[55] The parties have agreed that the proper construction of the term "catalyzing material" is "a material used to help form bonds between adjacent crystals during the formation of the body of bonded diamonds." Amended Joint Claim Construction Statement (attached as Ex. 1 to CPN-62), at pp. 2-3.

[56] In addition to alleging that the claim term is indefinite, DI further alleges that it is not enabled. As discussed above, the defense of enablement has no bearing here. *See, e.g., Chiron Corp.*, 363 F.3d at 1254; *see also Sitrick*, 516 F.3d at 999 – 1000.

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3). Any other counsel of record will be served by facsimile transmission and/or first class mail this 2nd day of October, 2009.

___/s/ Riny Pieternelle_____